

Amendments to the Specification

Please replace the paragraph beginning at page 4, line 26, with the following amended paragraph.

FIG. 8 is an enlarged cross-sectional view of the process chamber and associated mixing structure of FIG. 7, taken along line 8-8 in FIG. 7.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS OF THE INVENTION

Please replace the paragraph beginning at page 5, line 14, with the following amended paragraph.

Although various constructions of illustrative embodiments are described below, sample processing devices of the present invention may be similar to those described in, e.g., U.S. Patent Application Publication Nos. US 2002/0064885 A1 (Bedingham et al.); US 2002/0048533 A1 (Harms et al.); US 2002/0047003 A1 (Bedingham et al.); and US 2003/0138779 A1 (Parthasarathy et al.); as well as U.S. Patent No. 6,627,159 B1 (Bedingham et al.) and U.S. Patent Application No. 10/734,717, titled VARIABLE VALVE APPARATUS AND METHODS, filed on 12 December 2003. The documents identified above all disclose a variety of different constructions of sample processing devices that could be used to manufacture sample processing devices according to the principles of the present invention.

Please replace the paragraph beginning at page 7, line 21, with the following amended paragraph.

The valve 44 depicted in FIG. 2 can be opened to allow sample material in the process chamber 50 to move into conduit 42 for delivery to the secondary process chamber 50. The valve 44 may take the form of a valve septum 46 provided in a valve lip 48 overhanging a

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For: SAMPLE MIXING ON A MICROFLUIDIC DEVICE

portion of the process chamber 40 as depicted in the cross-sectional view of FIG. 3. Further examples and discussions of such valve structures may be found in, e.g., U.S. Patent Application Publication No. US 2003/0138779 A1 (Parthasarathy et al.) and U.S. Patent Application No. 10/734,717, titled VARIABLE VALVE APPARATUS AND METHODS, filed on 12 December 2004.